(No Model.) 4 Sheets—Sheet 1.

J. MUHLHAUSER.

CABINET FILE.

No. 420,239. Patented Jan. 28, 1890.

Fig. 1.

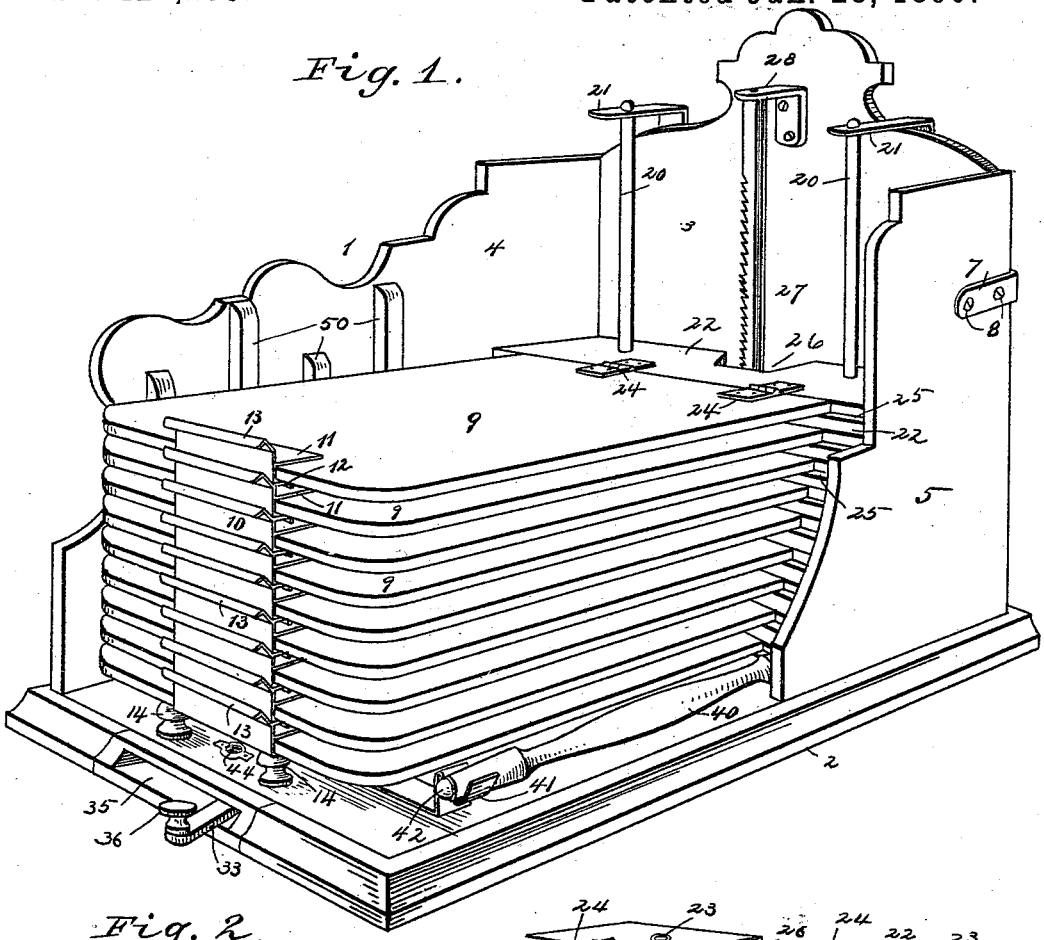


Fig. 2.

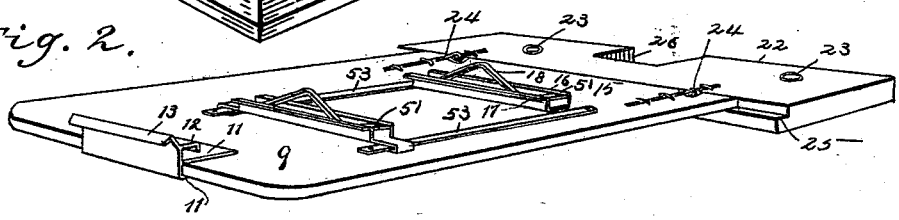
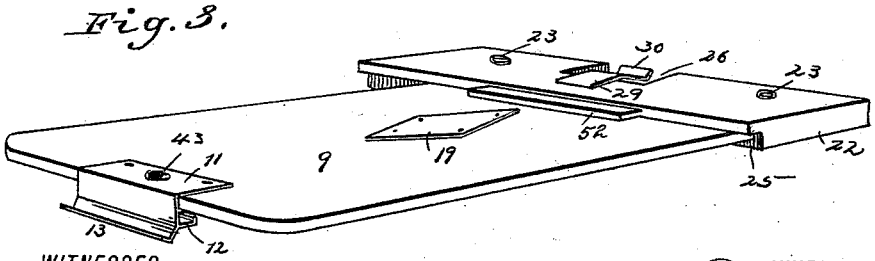


Fig. 3.



WITNESSES:

C. Sedgwick

INVENTOR:

J. Muhlhauser

BY

Munn & Co.

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.)

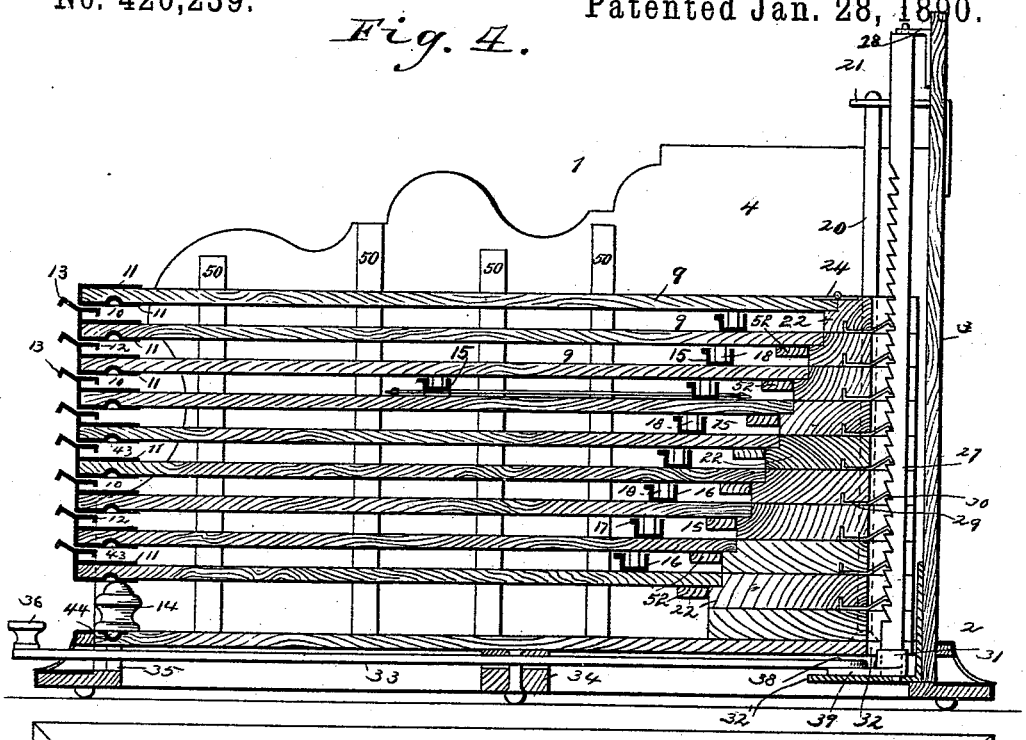
4 Sheets—Sheet 2.

J. MUHLHAUSER.

CABINET FILE.

No. 420,239. Patented Jan. 28, 1890.

Fig. 4.



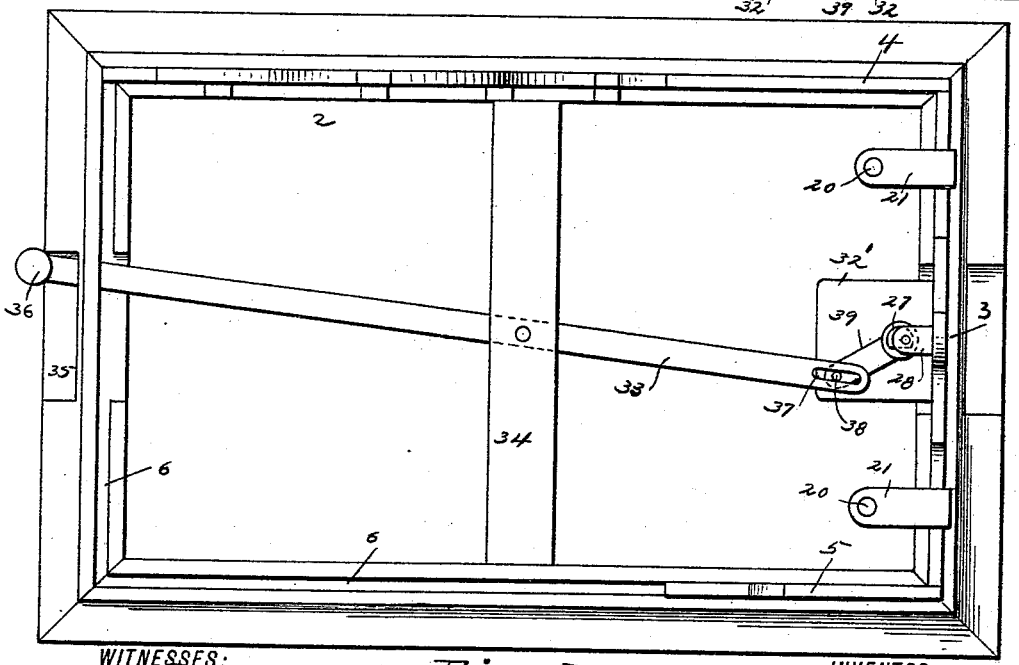


Fig. 5.

WITNESSES:

John M. Deemer

A. Sedgwick

INVENTOR:

J. Muhlhauser

BY Munn & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 4 Sheets—Sheet 3.

J. MUHLHAUSER.

CABINET FILE.

No. 420,239. Patented Jan. 28, 1890.

Fig. 6.

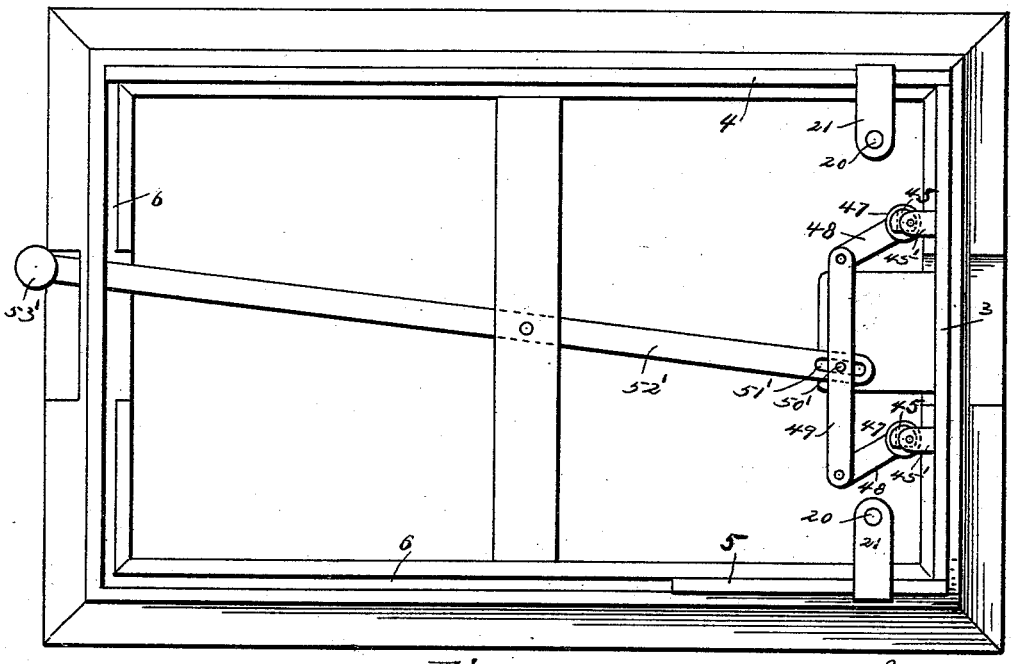


Fig. 7.

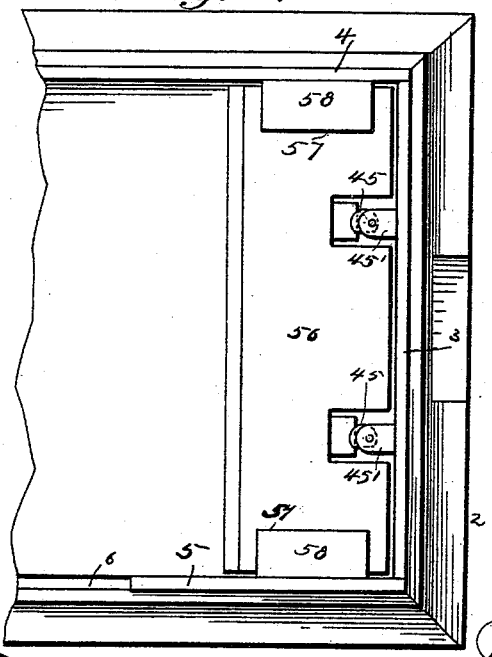


Fig. 8

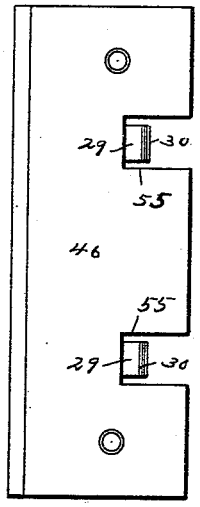


Fig. 9.

Fig. 10.

Fig. 11.

WITNESSES:

John H. Reemer

C. Sedgwick

INVENTOR:

J. Muhlhauser

BY

Munn & Co

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 4 Sheets—Sheet 4.

J. MUHLHAUSER.

CABINET FILE.

No. 420,239. Patented Jan. 28, 1890.

Fig. 12.

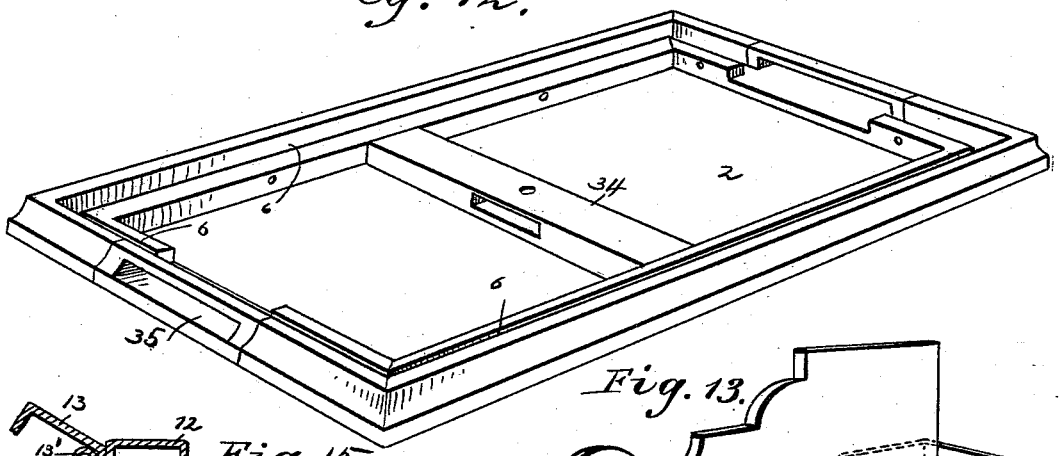


Fig. 15.

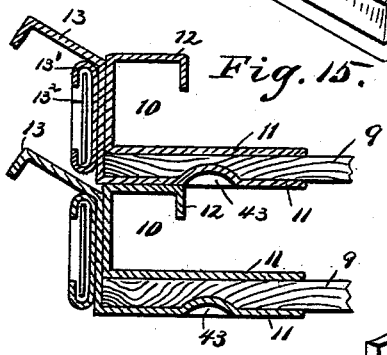


Fig. 13.

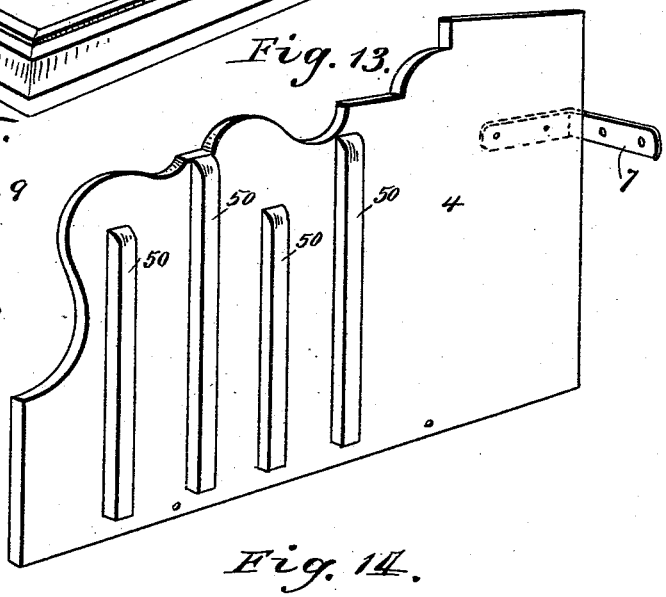


Fig. 16.

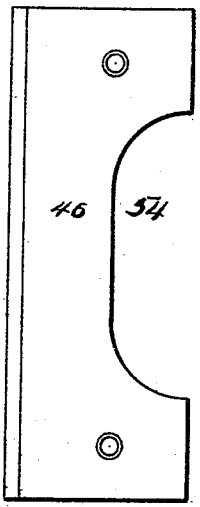
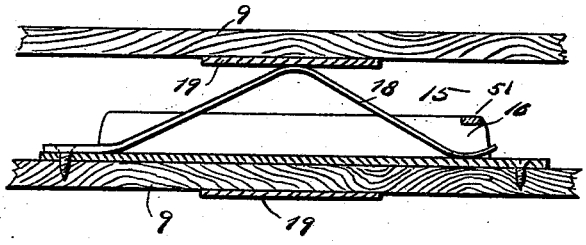


Fig. 14.



WITNESSES:
John H. Beeman
C. Sedgwick

INVENTOR:
J. Muhlhauser
BY
Munn & Co.
ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN MUHLHAUSER, OF ROCHESTER, NEW YORK.

CABINET-FILE.

SPECIFICATION forming part of Letters Patent No. 420,239, dated January 28, 1890.

Application filed July 20, 1889. Serial No. 318,117. (No model.)

To all whom it may concern:

Be it known that I, JOHN MUHLHAUSER, of Rochester, in the county of Monroe and State of New York, have invented a new and Improved Cabinet-File, of which the following is a full, clear, and exact description.

This invention relates to cabinet-files for holding sheet-music, drawings, papers, or periodicals in compactly-assorted position, and so that access may be readily had to any portion of the papers or sheets for the purpose of removal, inspection, and replacement without disturbing the arrangement of the rest of the papers.

The invention has for its object to provide a cabinet-file of this kind in which a number of horizontal rigid panels are arranged in a pile in an open frame or casing to press upon and hold in compact position assorted sheet-music, periodicals, &c., placed between the panels, the panels having a hinged vertically-sliding connection at their rear ends with the casing, whereby any number of the hinged panels, with the matter located between them, may be readily raised and lowered on their hinged supports without the parts binding at the hinged portions, and a mechanism for holding the hinged vertically-sliding connection of the rear ends of the panels with the casing in adjusted vertical position.

The invention consists in a cabinet-file of the above character constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the invention. Figs. 2 and 3 are perspective views of a panel detached from the file, Fig. 3 showing the panel in a reversed position from Fig. 2. Fig. 4 is a side view of the invention in vertical longitudinal section. Fig. 5 is a plan view of the file with the panels removed, showing the mechanism for holding the hinged sliding connection of any number of the panels in adjusted vertical position. Fig. 6 is a plan view of the file with the panels removed, showing a modification of the mechanism for adjustably holding the hinged sliding connection of the panels. Fig. 7 is a plan view of the rear of the casing, showing a modified form of hinged sliding connection employed with the adjusting mechanism shown in Fig. 6. Fig. 8 is a detail view of the hinged sliding connection employed with the adjusting mechanism shown in Figs. 5 and 6. Fig. 9 is a detail view of the mechanism shown in Figs. 5, 6, and 7 for adjustably holding the hinged sliding connection. Figs. 10 and 11 are modifications of the same. Fig. 12 is a perspective view of the bottom of the casing. Fig. 13 is a similar view of one of the sides of the casing detached. Fig. 14 is a detail view, in transverse section and broken away, of a pair of panels having an adjustable stop between them. Fig. 15 is a view in longitudinal section of the outer ends of a pair of panels. Fig. 16 is a plan view of one of the vertically-moving strips as made when the adjustable locking device is omitted.

1 indicates the frame or casing, consisting of the base 2, the vertical back 3 at the rear end of the base, a side 4, extending from the back 3 to the front end of the base, and a side 5, extending a short distance from the back 3 toward the front end of the base and leaving practically an open side to the casing. Projecting from the side 4 are suitable bearing-ribs 50, which keep the panels and their contents from contact with the sides.

The base 2, back 3, and sides 4 and 5 may be permanently secured together, but are preferably so connected that they may be detached from each other and compactly folded together for transportation, and with the sides and back also as a whole rendered reversible, so that the position of the sides and back with relation to the base can be changed to adapt the file to any corner of a room; also, the base, Fig. 12, may be made reversible and provided with two slots, so that it may be reversed or turned around, if required.

As shown, the bottom edges of the back 3 and sides 4 and 5 are located in grooves 6 in the base 2 and are detachably secured in place by screws or other suitable means, and the sides 4 and 5 are detachably secured to the back 3 by angular metallic strips 7 and screws 8 or other suitable means.

Mounted in a pile on the base 3 are any desired number of rigid horizontal panels 9, of wood, metal, or other suitable material, which compress and hold between them in

smooth arranged position sheets of music, drawings, papers, or periodicals.

The panels 9 receive the sheets or periodicals between them. The forward ends of panels 9 are provided with a vertical and inwardly-projecting L-shaped projection 12 and an outwardly-extending L-shaped projection 13, serving as a handle to lift the panels at their forward end. To the front face of the L-shaped projection 12 and under the handle 13 is attached a grooved plate or card-receiver 13′, in which a label-card 13^2 may be inserted, on which the general contents of the panel may be marked.

The base 2 at its forward end is provided with knobs or supports 14, on which rest the forward portion of the pile of panels.

On the upper surface of the panels 9, adjacent to their rear end, is located an automatically vertically-adjustable stop 15, formed with a grooved or gutter-shaped metallic piece 16, secured to the panel, having a flange 17, said stop 15 serving to limit the inward endwise movement of the filed sheets or periodicals.

The inward endwise movement of the filed sheets is prevented by means of the elastic V-shaped strip of metal 18, having one end fastened in the grooved piece 16 and its other end free to slide therein. To avoid wearing the panel beneath which the spring is located, a plate 19 is secured on the under side of the panel, against which the spring bears. To keep the free end of the strip or spring 18 in place in its groove, a bar 51 is placed across the end of the grooved piece 16.

When desired, the stops 15 may be made adjustable on the panels 9. This is done by attaching longitudinal edge pieces 53 to the panel (see Fig. 2) and extending the ends of the grooved pieces 16 and bending the same over, so as to hook upon the edges of the pieces 53, as shown. When thus constructed, the stops 15 may be moved along the surface of the panels, so as to accommodate sheets of papers or music of different sizes.

As the upper panel of two adjacent panels is lifted up by the addition of sheets or periodicals to the pile, reaching the top of grooved piece 16, as above referred to, the inverted-V-shaped metallic strip 18 rises with the upper panel and presses against it, thereby automatically increasing the height of the stop 15, formed by the grooved strip 16 and the elastic metallic strip 18, and preventing inward endwise movement of the sheets or periodicals lying above the plane of the top of grooved piece 16.

In order to permit the panels 9 to be raised up freely in a horizontal position, and also to be tilted or swung at their rear end when access between the panels is desired, the following construction is employed.

Referring to Figs. 1 to 4, inclusive, at the rear of the casing are located vertical rods 20, secured at their lower ends to the base-board, which rests in the base 2, and having their upper ends projecting through holes in metallic strips 21, secured to and projecting horizontally from the top of back 3. The elasticity of the rods 20 and strips 21 is such that the latter may be raised up out of connection with rods 20, and the rods 20 and strips 21 sprung apart. Upon the rods 20 are slid a number of strips 22, of wood or other suitable material, extending from side to side of the casing and having perforations 23, through which the rods 20 extend, preferably lined with metal. To the strips 22 are connected by hinges 24 the panels 9 at their rear end, the rear end of each panel resting in an angular recess or step 25, formed in the front edge of strips 22. It will be observed that the strips 22 gradually increase in width from the top of the pile to the bottom, according as each step 25 projects beyond the one above, the panels 9 gradually decreasing in length from top to bottom of the pile. At the rear end of the under side of the panels 9 there is secured a cross-bar 52, which, when the panel is depressed, closes against the strip 22 and helps to support the panel and relieve its hinges of undue strain. By means of this construction, if it is desired to have access to any point between the top and bottom of the pile of panels, a number of panels may be swung up together on their hinges, their rear ends supported on the strips 22, and there is no binding or crowding of the panels at their hinged ends. As the piles of periodicals, &c., increase between the panels, the strips 22 will be raised and separated from one another, and when any number of panels are swung up to place or replace some of the periodicals the tendency of the raised strips 22 is to sink or drop downward. There will, however, be no binding or crowding of the hinged ends of the panels. It has been found, however, that the raising of the panels will be more convenient in the instance above referred to if the strips 22 be held from sinking or dropping downward. To this end the rear edge of the strips 22 is cut away or recessed, as at 26, and a vertical notched rod 27 is provided, which extends vertically through the recessed portions 26 of the panels, is mounted at its lower end beneath the base 2, and is connected at its upper end to a bracket 28, projecting from the back 3.

Mounted on the under side of the strips 22 and projecting across the recess 26 is a spring-strip 29, having a bent end 30, adapted to engage the notched rod 27. The ends of the notched rod 27 are pivoted in the bracket 28, and a step 31, projecting up into an opening 32 in the base 2 and pivoted in a bracket 32, secured to back 3, and projecting beneath the base. The notched rod 27 is rotated to move its notched portion into and out of engagement with the bent ends 30 of spring-strips 29 by means of a vibrating rod 33, pivoted between its ends in an opening in a cross-bar 34, and extends at its forward part through an opening 35 in base 2, terminating

in a handle 36, and has at its rear end a slot 37, in which is located a pin 38, adapted to ride therein, and mounted on an arm 39, projecting from step 31.

The notched portion of rod 27 is preferably arranged thereon eccentrically to the axis of the rod, so that by vibrating the rod 33 the notches of rod 27 are moved into and out of engagement with the metallic strips 29. By this means, when the strips 22 are separated from each other by piles of papers, periodicals, &c., located between the panels, the strips 22 of a number of panels thus swung upon their hinges may be held from sinking, when the panels are swung upward, by moving the notched rod 27 into engagement with the metallic strips 29.

In order to hold one or more of the panels 9 in an inclined or tilted position, a supporting-stick 40 is provided, which, when not in use, lies on the base 2 at one side, and is held in place by having one or both ends inserted in a bracket-piece 41, secured to base 2. The ends of the supporting-stick 40 are preferably provided with knobs or cushions 42, of rubber or other suitable material, to prevent the stick from slipping.

The flanges 11 on the under side of the panels 9 are formed with a concave recess or socket 43, in which rests one end of the stick 40 when in use, the other end of the stick resting on the panel beneath.

A concave, recessed, or socketed plate 44 is located in the base 2, at its forward end, for one end of stick 40 to rest in when it is used to support all the panels in inclined position.

In lieu of a single notched rod 27 a pair of notched rods 45 may be employed, as shown in the modification in Figs. 6 and 7.

In the example shown in Fig. 6 the rods 20 extend through the strips 21 nearer their ends, and the strips 21 project from the sides 4 and 5 instead of from the back 3, thereby affording more room for the two notched rods 45 and their brackets 45′. The lower ends of rods 45 rest in pivotal steps 47, having arms 48 pivotally connected to the ends of a cross-bar 49, having a centrally-located pin 50′ projecting through and adapted to slide in a slot 51′ in the end of the vibrating bar 52′, pivoted between its ends to the base 2, and having its forward end projecting out of the front of base 2, provided with a knob or handle 53′, all as shown in Fig. 6. In this arrangement of two notched rotary rods 45 the strips 46 are formed with two recesses 55 to accommodate the rods 45, as shown in Figs. 7 and 8. When the adjustable locking device is not used, the strips 46 are formed with a single recess 54, as shown in Fig. 16.

The strips 22 and the form of hinges connecting them to the panels may be modified in various ways, and the mode of holding the strips in their place, at the same time allowing them to move freely vertically, may be modified in various ways without departing from the essential features of the invention.

By means of this invention a cabinet-file is provided by means of which any number of panels may be readily raised and lowered and swung on their hinged connection with the casing without any binding or sticking of their joints.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A cabinet-file consisting of a casing with vertical guides, strips movable on the guides, and panels hinged to the movable strips, substantially as herein shown and described.

2. A cabinet-file consisting of a casing with vertical guides, strips movable on the guides, panels hinged to the movable strips, and an adjustable locking device for engaging and holding the movable strips in position on the guides, substantially as shown and described.

3. In a cabinet-file, a frame or casing having vertical guides, a pile of strips vertically movable on the guides and increasing in width from the top to the bottom of the pile to form a series of steps, and a pile of horizontal rigid panels hinged to the vertically-movable strips, with the rear ends of the panels resting on the steps, substantially as shown and described.

4. In a cabinet-file, a frame or casing having vertical guides, a pile of strips vertically movable on the guides and increasing in width from the top to the bottom of the pile to form a series of steps, a pile of horizontal rigid panels hinged to the vertically-movable strips, with the rear ends of the panels resting on the steps, and spacing-stops at the forward end of the panels, substantially as shown and described.

5. In a cabinet-file, a casing having vertical guides, a number of step-like strips mounted upon one another, vertically movable on the guides, and having a projecting spring-lip, a number of horizontal rigid panels mounted upon one another of gradually-diminishing length from the highest to the lowest panel and hinged to the step-like strips, with their rear ends resting on the strips, a vertical rotary notched rod, and a lever mechanism for moving the notched rod into and out of locking engagement with the spring-lips on the vertically-movable strips to hold them in position on their guides, substantially as shown and described.

6. In a cabinet-file, a casing with vertical guides, a number of strips mounted on top of one another of different widths to form a series of steps and vertically movable on the guides, and a number of horizontal rigid panels hinged to the vertically-movable strips, with their rear ends resting on the steps, in combination with a detachable support for holding any number of the panels in tilted or inclined position, substantially as shown and described.

7. In a cabinet-file, a casing having vertical guide-rods, a number of strips mounted on one another of gradually-increasing width to form a series of steps and vertically movable

on the guide-rods, and a number of rigid horizontal panels having spacing-supports at one end and hinged to the vertically-movable strips at their rear ends, the latter resting on the steps of the vertically-movable strips, substantially as shown and described.

8. A cabinet-file consisting of a casing with vertical strips, a number of strips vertically movable on the vertical guide-rods, and having projecting spring-lips and projecting edges forming a series of steps, a number of rigid horizontal panels of different lengths having spacing-stops at their front ends and hinged at their rear ends to and resting upon the stepped vertically-movable strips, a vertical rotary notched rod or rods adapted to engage the spring-lips of the vertically-movable strips, and a lever mechanism for operating the rotary notched rod and moving it into and out of engagement with the spring-lips, substantially as shown and described.

9. In a cabinet-file, the panels 9, constructed with cross-bars 52, adapted to close against the strips 22, substantially as shown and described.

10. In a cabinet-file, the combination, with the panels 9, of adjustable stops 15, substantially as shown and described.

11. In a cabinet-file, the combination, with the side 4 and with the panels 9, of the bearing-ribs 50, substantially as shown and described.

JOHN MUHLHAUSER.

Witnesses:
A. E. BEACH,
C. SEDGWICK.